

SARYLOVA, K.P.

Treatment of rheumatic fever in children by peroral administration
of adenosone (cortisone acetate). Sov.med. 22 no.9:31-34 8'58
(MIRA 11:11)

1. Iz kliniki fakul'tetskoy pediatrii II Moskovskogo gosudarstvennogo
meditsinskogo instituta imeni N.I. Pirogova (zav. kafedroy - prof.
P.A. Ponomareva).

(RHEUMATIC FEVER, in inf. & child.
cortisone ther. (Rus))
(CORTISONE, ther. use
rheum. in child (Rus))

SARYLOVA, K.P.; KUZNETSOV, A.I.

Phonocardiography in children [with summary in English]. *Pediatrriia*
36 no.12:13-16 D '58. (MIRA 12:1)

1. Iz kafedry fakul'tetskoy pediatrii (zav. - prof. P.A. Ponomareva)
II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova (dir. -
prof. O.V. Kerbikov).

(CARDIAC MURMURS AND SOUNDS

phonocardiography in child. (Rus))

BESSONOVA, Mariya Nikolayevna, pref.; SARYLOVA, K.P., red.; POGOSKINA,
M.V., tekhn. red.

[Rickets] Rakhit. Moskva, Gos. izd-vo med. lit-ry Medgiz, 1960.
150 p. (MIRA 14:9)

(RICKETS)

TUMARKIN, TSelestin Moiseyevich; SARYLOVA, K.P., red.; KUZ'MINA,
N.S., tekhn. red.

[Diagnosis and treatment of emergency pediatric states]
Dagnostika i terapiia neotlozhnykh sostoianii u detei.
Moskva, Medgiz, 1961. 198 p. (MIRA 15:10)
(PEDIATRICS) (MEDICAL EMERGENCIES)

DANILINA, Zoya Aleksandrovna; SARYLOVA, K.P., red.; POGOSKINA, M.V., tekhn.
red.

[Clinical aspects and treatment of capillary toxicosis in children]
Klinika i lechenie kapilliarotoksikoza u detei. Moskva, Gos. izd-
vo med. lit-ry, Medgiz, 1961. 137 p. (MIRA 14:9)
(PURPURA (PATHOLOGY))

SARYLOVA, K.P., dotsent; VOLOKHINA, O.I.; MONAKHOVA, M.A.

Diagnostic significance of various immunological factors in
rheumatic fever in children. *Pediatrics* 39 no.2:37-42 F '61.
(MIRA 14:2)

1. Iz fakul'tetskoy terapevticheskoy kliniki lechebnogo fakul'-
teta (zav. - deystvitel'nyy chlen AMN SSSR prof. A.I. Nesterov)
i fakul'tetskoy detskoy kliniki (zav. - prof. P.A. Ponomareva)
II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(RHEUMATIC FEVER) (ANTIHEMOLYSIN) (HYALURONIDASE)

LAPINA, Kseniya Vladimirovna; SARYLOVA, K.V., red.; MATVEYEVA, M.M.,
tekhn. red.

[Chronic pneumonia in children and the role of physical
methods in its compound treatment] Khronicheskaya pnevmo-
niya u detei i rol' fizicheskikh metodov v kompleksnom ee
lechenii. Moskva, Medgiz, 1963. 279 p. (MIRA 17:2)

SARYMSAKOV, A.

Let's fulfill our obligations with honor. Sov. torg. 34 no.6:3-6
Je '61. (MIRA 14:7)

1. Ministr torgovii Uzbekskoy SSR.
(Uzbekistan—Retail trade)

SARYMSAKOV, F.S.

Experimental infestation of sheep by hookworms. Dokl. AN Uz. SSR
no.7:61-64 '57. (MIRA 11:5)

1. Uzbekskiy nauchno-issledvatel'skiy veterinarnyy institut.
Predstavleno chlenom-korrespondentom AN UzSSR G.A. Kudryavtsevm.
(Sheep) (Hookworms)

SARYMSAKOV, F.S.

Epizootology of bunostomiases in sheep and goats in Uzbekistan.

Dokl. AN Uz. SSR no.12:51-55 '57.

(MIRA 11:5)

1. Uzbekskiy nauchno-issledovatel'skiy veterinarnyy institut.
Predstavleno chlenom-korrespondentom AN UzSSR G.A. Kudryavtsevm.
(Uzbekistan--Sheep--Diseases and pests)

SARYMSAKOV, F.S., Cand Vet Sci--(diss) "Data on bunostomosis of small cattle in Uzbekistan." Samarkand, 1958. 17 pp (Min of Agr USSR. Uzbekistan Agr Inst im V.V. Kuybyshev), 150 copies (KL, 30-58, 130)

-121-

SARYMSAKOV, F.S.

Studying the biology of the sheep parasite *Bunostomum*
trigonosephalum (Rud.). Dok. AN Uz.SSR no.10:53-56 '58.
(MIRA 11:12)

1. Uzbekskiy nauchno-issledovatel'skiy veterinarnyy institut.
Predstavleno chlenom-korrespondentom AN UzSSR G.A.Kudryavtsevim.
(Sheep--Parasites) (Hookworms)

SARYMSAKOV, F.S.

Testing phenothiazine in bunostomiasis in sheep. Veterinariia 35
no.5:75-76 My '58. (MIRA 12:1)

1. Uzbekskiy nauchno-issledovatel'skiy veterinarnyy institut.
(Trematoda) (Sheep--Diseases) (Phenothiazine)

SARYMSAKOV, F.S.; NIKOL'SKIY, Ya.D.

Invasion of sheep by *Bunostomum trigonocephalum* in the karn.
Trudy Uz.nauch.-issl.inst.vet. 14:169-175 '61. (MIRA 16:2)
(Uzbekistan—Hookworms) (Parasites—Sheep)

SULTANOV, M.A.; SARYMSAKOV, F.S.; ADYSHEVA, M.M.

Helminths of domestic waterfowl of the Kara-Kalpak A.S.S.R.
and the seasonal dynamics of basic helminthiases. Uzb.
biol. zhur. 7 no.6:32-35 '63. (MIRA 17:6)

1. Institut zoologii i parazitologii AN UzSSR.

ACC NR: AP7013146

SOURCE CODE: UR/0166/66/000/006/0024/0032

AUTHOR: Sarymsakov, T. A.; Sarymsakov, Kh. A.

ORG: Institute of Mathematics im. V. I. Romanovskiy, AN UzSSR (Institute matematiki AN UzSSR); Tashkent Polytechnical Institute (Tashkentskiy politekhnicheskii institut)

TITLE: Topological semi-fields with a metric

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 6, 1966, 24-32

TOPIC TAGS: topology, continuous function, set theory

SUB CODE: 12

ABSTRACT: The article is divided into two parts: Co-Final and Metric, and Measurable Elements of a Semi-Field. In the first part the authors discuss a full topological semi-field E with a set of idempotents $\nabla \subset E$. Two definitions are presented and a number of proofs of statements relative thereto are given:
 I. The subset $J \subset \nabla$ is called "co-final" if 1) $co \in J$ follows from $o \in J$,
 2) $o \vee g \in J$, $o \wedge g \in J$ follows from $o, g \in J$.
 II. A non-negative, continuous function m defined on co-final J , taking on

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ACC NR: AP7013146

finite or infinite values, finitely additive for disjunctive elements of co-final J , and equal to zero only on the idempotent θ is called a "metric."

In the second part the authors discuss the expression (E, J, m) , which they call a "space with a metric." It is considered fixed. Five definitions are presented and a number of proofs of statements relative thereto are given:

I. The element $x \in E$ is called "measurable" if $e_x \in J$, and for any real number the relation $G_\lambda = \bigvee \{e : xe < \lambda e\} \in J$, where e_x is the carrier of element x , holds.

II. Element x is called a "simple element of a semi-field" if it has the form

$x = \sum_{i=1}^n \lambda_i e_i$, where $e_1, e_2, \dots, e_n$ are pairwise disjunctive, measurable elements, and $\lambda_1, \lambda_2, \dots, \lambda_n$ are real numbers.

III. The sequence $\{x_n\}$ of measurable elements of semi-field E converges to the element $x \in E$ (in the topological sense of semi-field E) if anywhere in the vicinity of zero U is in E and there exists a natural number n_U such that

$$|x_n - x| \in U \quad \dots : n > n_U.$$

IV. The sequence of measurable elements $\{x_n\}$ converges in the metric to the element x if $\lim_{n \rightarrow \infty} m(\bigvee \{e : |x_n - x|e \geq \epsilon e\}) = 0$, for any $\epsilon > 0$.

V. The sequence of measurable elements $\{x_n\}$ converges strongly in the metric to the measurable element x if

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ACC NR: AP7013146

for any $\epsilon > 0$. The convergence is $\lim_{n \rightarrow \infty} m(V(\epsilon: |x_n - x| > \epsilon)) = 0$,
 written as $x_n \xrightarrow{0,0,\#} x$. (converges strongly) Orig. art. has: 7 formulas.
 [JPRS: 40,050]

Card 3/3

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S/147/60/000/003/005/018
E022/E420

24-2-73

AUTHOR:

Sarymsakov, Kh.G.

TITLE:

The Optimal Angle of Setting of Booster Rockets on an Aircraft ²³

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1960³ No.3, pp.28-33

TEXT: The author considers the possibility of increasing by some 10 to 15% the payload of an aircraft by assisting the take-off with solid fuel rockets as an emergency measure in case one of the engines fails. To secure the maximum additional pay load, the rocket itself and its auxiliary equipment must be as light as possible. Since the weight of the rocket depends on the trajectory of the aircraft, the angle of setting of the rocket, its thrust and time of burning etc, the problem reduces to that of the optimal angle of setting with the minimum weight of the rockets. It is assumed that the engine failure occurs at the instant when the aircraft becomes airborne, that the engine thrust coincides with the direction of the velocity of the climb and that the following quantities remain constant during the rocket-assisted climb: aircraft weight, speed of climb (equal to the speed of

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E022/E420

The Optimal Angle of Setting of Booster Rockets on an Aircraft

take-off), angle of climb, thrust of the working engine, rocket thrust, angle between the rocket thrust and velocity of climb, and air density. With the notation of Fig.1, the equations of motion are given by Eq.(4) or, employing the resolution of forces as shown in Eq.(5), by Eq.(6). The last equation may again be split into two groups: (1) as given in Eq.(7) representing the steady climb (with one engine failed) of the aircraft without rockets and (2) as given by Eq.(8) representing the additional forces due to rockets only. This latter system of forces is shown in Fig.2. Assuming H to be the safe altitude at which rockets are fully burnt out and introducing the notion of the specific impulse (I_{ud}) and total impulse (I_{sum}) of the rocket, the required thrust of the rocket is given by Eq.(13). Expressing next the additional lift and drag in terms of the coefficients c_y and c_x respectively, Eq.(16) eventually is derived. The minimum weight of the rocket (G_p) is then found by differentiating G_p with respect to φ , which results in Eq.(19), from which eventually Eq.(22) is obtained. Substituting this in Eq.(18) leads to Eq.(23). Fig.3 shows the results of computations from Eq.(23) for

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The Optimal Angle of Setting of Booster Rockets on an Aircraft

the following two cases: (1) twin engine aircraft of normal weight of 18000 kg and (2) twin engine aircraft of 82000 kg normal weight; while Fig.4 shows the same graphs but for the useful range of angles of climb only. It is seen from these graphs that the optimal angle of setting of rockets is small ($< 10^\circ$) and is almost independent of the additional weight of the aircraft. Hence Eq.(23) may be reduced to read as given in Eq.(24). There are 4 figures and 3 references: 2 Soviet and 1 English.

ASSOCIATION: Moskovskiy aviatsionnyy institut Aviatsionnaya tekhnika -3 (Moscow Aviation Institute, No.103 Chair) X

SUBMITTED: January 29, 1960

Card 3/3

S/081/62/000/006/043/117
B101/B110

AUTHORS: Petrik, G. K., Voshchakina, V. A., Sarymsakov, Sh.

TITLE: Apparatus for high-vacuum distillation of substances with high melting point

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 163 - 164, abstract 6Ye90 (Izv. AN KirgSSR. Ser. yestestv. i tekhn. n., v. 3, no. 2, 1961, 101 - 103)

TEXT: An apparatus was designed for fractionating products of low-temperature hydrogenation of coals in which no outlets for the condensate are heated. The product to be distilled is filled into the space between the walls of the spherical part of the distillation flask and a wide hollow tube molten onto its bottom. This tube is connected with the receiver having four sections. A condenser with ground-in connection is introduced into the neck of the flask. The lower part of this condenser reaches into the center of the hollow tube which is molten onto the bottom of the flask. The flask is placed into a detachable aluminum block which in turn is placed into a furnace together with the flask. The

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Apparatus for high-vacuum ...

S/081/62/000/006/043/117
B101/B110

vacuum is produced by a mercury vapor diffusion pump in the flask and a system of traps for collecting the water and the light oils. Continuous heating of the neck of the flask and of its spherical part prevents complete solidification of the distilled-off product on the condenser surface. [Abstracter's note: Complete translation.]

Card 2/2

PETRIK, G.K., kand.tekhn.nauk; SARYMSAKOV, Sh.; BELEKOV, O.

Improving the methodology of laboratory determining of the coking properties of coal and charge. Koks i khim. no.12:13-16 (MIRA 16:1) '62.

1. Institut nefte- i uglekhimicheskogo sinteza Sibirskogo otdeleniya AN SSSR (for Petrik). 2. Institut organicheskoy khimii AN Kirgizskoy SSR (for Sarymsakov, Belevkov).
(Coke—Testing)

Sarymsakov, T. A. The law of the iterated logarithm for
~~Markov schemes.~~ ~~Acta Univ. Astae Mediac.~~
N. S. Math. Fasc. 5, 15 pp. (1945) (Russian)

USSR/Meteorol

Meteorol Res

Nov/Dec 1947

"Statistical Character of the Synoptic Condition Over Central Asia During the Cold Part of the Year," T. A. Sarymsakov, V. A. Dzhorzhio, V. A. Bugayev, Inst Math and Mech, Acad Sci Uzbek SSR, 14 pp

"Issy Abad Bank USSR, Ser Geograf i Geofiz" Vol II, No 6

Authors discuss studies conducted to determine statistical method of classifying synoptic conditions over Central Asia. In addition to repetition and prolongation of separate types on which are based methods for dynamic formation of climate during cold part of the

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USSR/Meteorol (Contd)

Nov/Dec 1947

year, authors also show relationships between several types of conditions. Discuss system they suggest from standpoint of its value as means of forecasting. Submitted, 5 Jul 1946.

SARYMSAKOV, T

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SARIYSAKOV, T. A.; BUGAYEV, V. A.; DZHORDZHIC, V. A.

"The Formation of Weather in Central Asia," Dok. AN, 58, No. 9, 1947.

SARYMSAKOV, T.A.

Polycyclic chains. Biul.SAGU no.30:61-70 '48.

(MLEA 9:5)

1. Deystvitel'nyy chlen AN UzSSR.

(Probabilities)

SARKIS ARUK

Savinsakov, T. A. and Sultanova, M. The law of the
by Akad

together. Now $S_{\alpha} = F_{\alpha} - F_{\alpha-1}$ and it is easily seen that the
Then $S_{\alpha} = F_{\alpha} - F_{\alpha-1}$ and it is easily seen that the
remainder ρ_{α} can be neglected in the limit. The authors
seem to forget that $\nu(\pi)$ is a random variable and that for
given $\nu(\pi)$ the Y_k are no longer mutually independent.
Except for this the above argument would imply the law of
large numbers for S_n . (For a more complete treat-
ment of the law of large numbers for S_n see the paper of
H. A. Kramers, *Math. Ann.* 1937, 124, 1-10.)

PSHENICHNYY, A.Ya.; SARYMSAKOV, T.A., deyativitel'nyy chlen.

Method for approximate calculation of the intensity of precipitation.
(MLRA 6:5)
Dokl.AN Uz.SSR no.3:6-9 '49.

1. Institut matematiki i mekhaniki AN Uz.SSR (for Pshenichnyy).
2. Akademiya Nauk Uzbekskoy SSR (for Sarymsakov). (Precipitation (Meteorology))

SARYMSAKOV, T.A., deystvitel'nyy chlen Akademii nauk Uzbekskoy SSR.

Theory of homogenous stochastic processes without after-effect.
Differential equations for characteristic functions. Trudy Inst.
mat. i mekh. AN Uz.SSR no.5:61-69 '49. (MLRA 6:12)
(Probabilities)

SIRAZHDINOV, S. Kh.; MOROZOVA, M. I.; SARYMSAKOV, T. A., deystvitel'nyy chlen.

Results of statistical analysis of the rotation of weather types over Central Asia. Dokl. AN Uz. SSR no. 12:12-14 '49. (MIRA 6:5)

1. Institut matematiki i mekhaniki AN Uz. SSR (for Sirazhdinov, Morozova).
2. Akademiya Nauk Uzbekskoy SSR (for Sarymsakov).
(Soviet central Asia--Climate) (Mathematical statistics)

SARYMSAKOV, T.A.; DZHORZHIO, V.A., professor, doktor; BUGAYEV, V.A.,
professor.

Study of monthly temperature anomalies in Tashkent. Biul.SAGU
no.29:3-17 '49. (MIRA 9:5)

1. Deystvitel'nyy chlen AN UzSSR (for Sarymsakov)
(Tashkent--Atmospheric temperature)

is nonnegative and continuous, and has the property that
for any pair of points x, t of (a, b) there exist iterates K_n
and K'_n of K such that $K_n x \rightarrow 0$ and $K'_n t \rightarrow 0$. Then

Source: Mathematical Reviews,

Vol

No

SARYMSAKOV, T. A.

PA 175T61

USSR/Meteorology - Lows, Pressure
Atmosphere

11 Jul 50

"Nature of the Nearer Asia Low-Pressure Region," T.
A. Sarymsakov, Act Mem, Acad Sci Uzbek SSR, V. A.
Bugayev, V. A. Dzhordzhio, M. A. Petrosyants

"Dok Ak Nauk SSSR" Vol LXXIII, No 2, pp 291-294

Baluchistan low is related to thermal causes re-
sponsible for low pressure and thermobaric fld
which cause thermal depression. According to
theory, the low's center must appear east of
greatest heating of air masses from underlying
surface. Fig shows contours of abs topography
of 700-millibar surface relative to topography
of 500/1,000 millibar surface. Submitted 21
21 Apr 50.

175T61

Translation 2524467, 30 Apr 54

SARYMSAKOV, T.A.

Law of the iterated logarithm for Markov's processes with a
finite number of possible states. Trudy Inst.mat.i mekh.
AN Uz.SSR no.10 pt.1:13-18 '52. (MIRA 8:9)
(Probabilities)

GUSHCHIN, P.O.; SARYMSAKOV, T.A., professor, glavnyy redaktor; KOROVIN, Ye.P., professor, otvetstvennyy redaktor.

[Biology of Alhagi] K biologii iantaka. Tashkent, Izd-vo SAGU, 1953. 22 p. (Tashkent. Universitet. Trudy Sredneaziatskogo gosudarstvennogo universiteta, no.44, Biologicheskie nauki, no.16)
(MLRA 9:12)

1. Deystvitel'nyy chlen Akademii nauk Uzbekskoy SSR (for Sarymsakov and Korovin).

(Alhagi)

SARYMSAKOV, T.A.; ROMANOVSKIY, V.I., professor, otvetstvennyy redaktor.

[Matrix method of investigating Markov chains having a denumerable quantity of possible states] Matrichnyi metod issledovaniya tsepei Markova so shchetnym mnozhestvom vozmozhnykh sostoyaniy. Tashkent, Izd-vo Sredneaziatskogo gos.univ. 1953. 45 p. (Tashkent, Universitet. Trudy Sredneaziatskogo gosudarstvennogo universiteta, no.46. Fiziko-matematicheskie nauki, no.9)
(MLRA 9:12)

1. Deystvitel'nyy chlen Akademii nauk UzSSR (for Romanovskiy).
(Probabilities)

SARYMSAKOV, T.I.R.
VDOVTSOVA, Ye.A., kandidat khimicheskikh nauk; TSUKERVANIK, I.P., professor, otvetstvennyy redaktor; ~~SARYMSAKOV, Ye.A.~~, glavnyy redaktor; RYZHOV, S.N., professor-doktor, zamestitel' glavnogo redaktora; ROMANOVSKIY, V.I., redaktor; KOROVIN, Ye.P., redaktor; MASSON, M.Ye., redaktor; KORZHENEVSKIY, N.L., redaktor; POPOV, V.I., professor-doktor, redaktor; MIROSHKINA, N.M., professor, redaktor; STOLYAROV, D.D., dotsent, redaktor; BONDARENKSKIY, G.L., dotsent, redaktor; KRASNOVAYEV, I.M., dotsent, redaktor; GENTSHKE, L.V., dotsent, redaktor

[Radical and ionic alkylation of aromatic compounds] Radikal'nyi i ionnyi mekhanizmy reaktsii alkilirovaniia aromaticeskikh soedinenii. Brevan, Izd-vo Brevanskogo universiteta, 1953. 92 p. (Tashkent. Universitet. Trudy Sredneasiatskogo gosudarstvennogo universiteta. no.43. Khimicheskie nauki, no.6)

1. Deystvitel'nyy chlen Akademii nauk UzSSR (for Sarymsakov, Romanovskiy, Korovin). 2. Deystvitel'nyy chlen Akademii nauk Turkm. SSR (for Masson). 3. Chlen-korrespondent Akademii nauk UzSSR (for TSukervanik, Korzhenevskiy).

(Aromatic compounds) (Alkylation)

SARYMSAKOV, T. A.

Mathematical Reviews
Vol. 15 No. 1
Jan. 1954
Analysis

7-13-54
LL

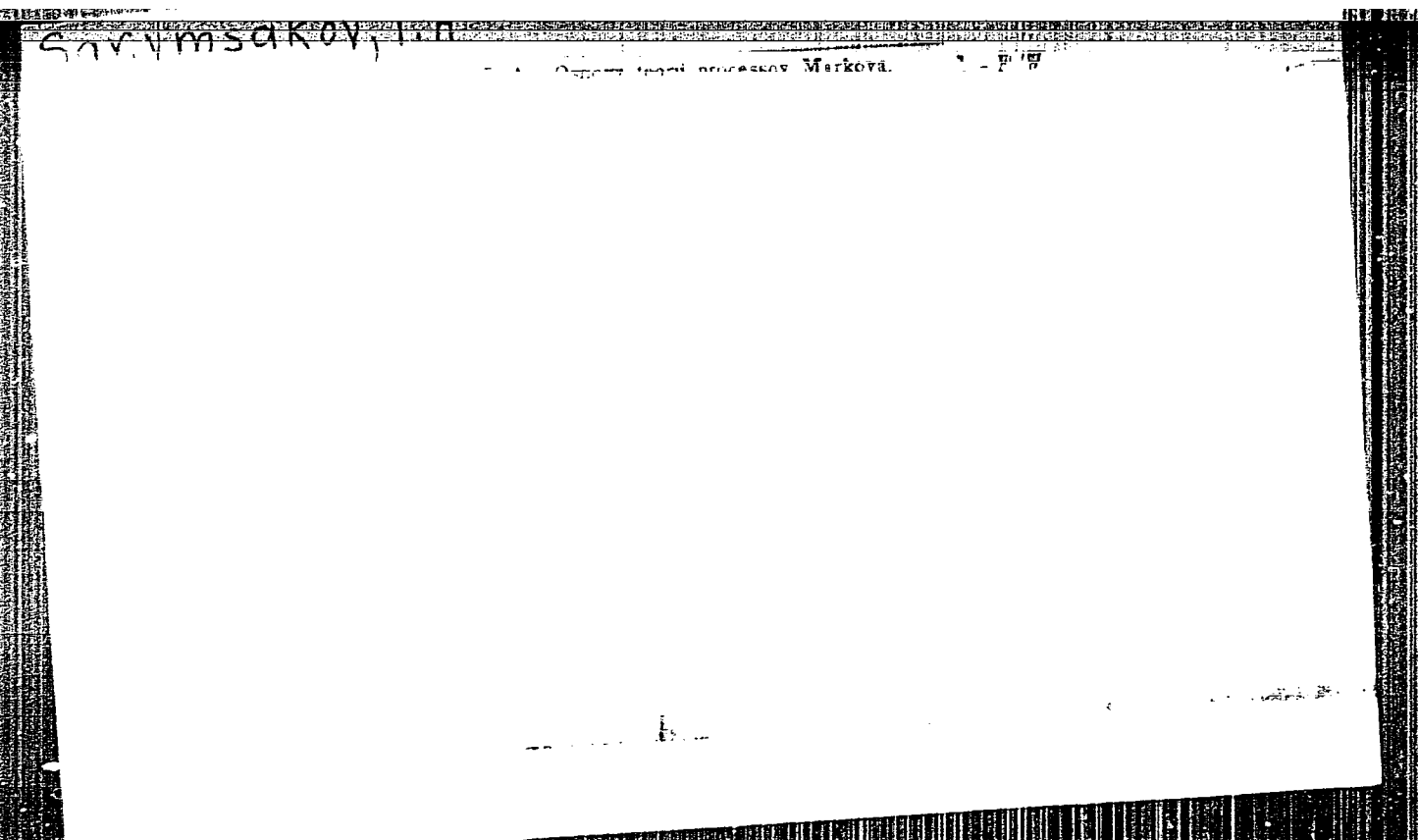
Sarymsakov, T. A. On the ergodic principle for nonstationary Markov chains. Doklady Akad. Nauk SSSR (N.S.) 90, 25-28 (1953). (Russian)

Let $\|p_{ij}(1)\|, \|p_{ij}(2)\|, \dots$ be the successive one-step transition probability matrices of a Markov chain with s states, and let $p(m, n, i, j)$ be the (i, j) th element of $\prod_{k=1}^n \|p_{ij}(k)\|$. A stochastic matrix is called primitive if some power has only positive elements. Let G be the class of s -dimensional primitive stochastic matrices A with the property that AB is primitive whenever B is. Then, if it is possible to find a sequence of matrices in G , $\{\|q_{ij}(k)\|, k \geq 1\}$, such that, for some $\epsilon > 0$, and all i, j, k with $q_{ij}(k) > 0$, the inequality $p_{ij}(k) > \epsilon$ is satisfied, it follows that

$$\lim_{n \rightarrow \infty} [p(m, n, i, j) - p(m, n, i', j)] = 0$$

for all m, i, i', j . Related results are also proved.

J. L. Doob (Urbaña, Ill.).



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SARYMSAKOV, T.A.

Vsevolod Ivanovich Romanovskii; obituary. Usp.mat.nauk. 10
no.1:79-83 '55 (MIRA 8:6)
(Romanovskii, Vsevolod Ivanovich, 1879-1954)(Bibliography--
Mathematics)

CARD 1/3 PG - 240

SUBJECT
AUTHOR
TITLE

PERIODICAL

USSR/MATHEMATICS/Theory of functions

SARYMSAKOV T.A.:

On an approximation method for the calculation of real roots of polynomials which belong to a sequence of polynomials with regular distribution of roots.
Doklady Akad. Nauk 101, 413-416 (1955)
reviewed 10/1956

The sequence of polynomials (1) $(P_n(x))$ with real zeros is said to have a regular distribution of roots if the limit value

$$(2) \quad \lim_{n \rightarrow \infty} \frac{1}{n} N_n(-\infty, x) = \psi(x)$$

exists. Here $N_n(-\infty, x)$ is the number of the roots of $P_n(x)$ which do not exceed x . If (2) is satisfied, then (1) belongs to the class $R_\psi(a, b)$, provided that all roots of all $P_n(x)$ lie in the interval (a, b) . If $x_{i,n}$ are the roots of $P_n(x)$ and $M_{k,n} = \frac{1}{n} \sum_{i=1}^n x_{i,n}^k$ their moments, then the existence of

(3) $\lim_{n \rightarrow \infty} M_{k,n} = M_k$ ($k=1, 2, \dots$) implies the existence of the distribution function $\psi(x)$ and (2). On the other hand, (2) implies the existence of the

Doklady Akad. Nauk 101, 413-416 (1955)

CARD 2/3 PG - 346

the limits (3) and hence $M_k = \int_a^b x^k d\psi(x)$. The function $\psi(x)$ can always be

determined by using the well-known Newton relations between the coefficients of a polynomial and the moments of its roots.

If $\psi(x)$ is differentiable in $[a, b]$, then there exists a transformation $x = f(t)$ with the property that the distribution function with respect to t in the limit is uniform. For large n approximation values $x'_{i,n}$ for the roots

of the polynomials are obtained: $x'_{i,n} = f(t_{i,n})$, $t_{i+1,n} - t_{i,n} \approx \frac{\beta - \alpha}{n}$, $a = f(\alpha)$, $b = f(\beta)$.

The method is based on two theorems which are given without proof:

1) Suppose that a) the sequence $(P_n(x))$ belongs to the class $R_\psi(a, b)$, b) for every n a root of $P_n(x)$ is known, c) $f(t)$ is differentiable in (α, β) , d) the limit passage in (2) is uniform in x on (a, b) ; then for each $\varepsilon > 0$ there exists a positive integer n_0 such that

$$|x'_{i,n} - x_{i,n}| < \varepsilon \quad \text{for } n \geq n_0 \text{ and for all } i=1, \dots, n.$$

Here $x_{i,n}$ are the true zeros of $P_n(x)$ and $x'_{i,n}$ the approximation values found by aid of $\psi(x)$.

2) Let $(P_n(x))$, $(Q_n(x))$ be two sequences of polynomials with regular distribution of roots in (a, b) . Then the two sequences belong to the same

SARYMSAKOV, T. A.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Romanovskiy, P. I. (Moscow). On Integral Transformations Analogous To Laplace Transformations. 98

Rymarenko, B. A. (Leningrad). Some Extremal Problems of the Theory of Monotone Functions. 98-99

Sarymsakov, T. A. (Tashkent). Polynomial Sequences With a Regular Distribution of Zeros. 99

Safronova, G. P. (Leningrad). Application of Orlich Metrics to Some Boundary Problems of the Theory of Analytic Function 99-100

Seleznev, A. I. (Gor'kiy). On Functions Which are Monogenic on Never Dense Closed Sets, and on F_σ Type Sets. 100-101

Sodnomov, B. S. (Ulan-Ude). Consistency of Projectivity of Some Uncommon Set. 101-102

Sokolov, I. G. (L'vov). The Residue of Fourier Serves for Differentiable Functions. 102

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SARYMSAKOV, T. A.

Call Nr: AF 1108825
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Transactions of the Third All-union Mathematical Congress
Jun-Jul '56, Trudy '56, V. 1, Sect. Rpta., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.
There are 3 references, 2 of which are USSR, and 1 is English. 125-127

Sanov, I. N. (Moscow). On the Probability of the
Large Deviations of a Random. 127-129

Mention is made of Smirnov, N. N. and Petrov, V. V.

Sarmanov, O. V. (Leningrad). Limiting Discrete
Distribution for Nonhomogeneous Two-state Markov Chains. 129-130

There are 2 references, 1 of which is USSR, and the
other one English.

Sarymsakov, T. A. (Tashkent). Limit Theorems for
Nonhomogeneous Markov Chains. 130

There is 1 USSR reference.

Card 41/80

SARYMSAKOV, T.A.

Vsevolod Ivanovich Romanovskii. Trudy Inst. mat. i mekh. AN Uz.
SSR no.17:3-11 '56. (MLBA 10:4)
(Romanovskii, Vsevolod Ivanovich, 1879-1954)

SARYMSAKOV, T., Rector of the Middle Asian State University Academician of the Academy of Sciences of the Uzbek SSR.

"Splendid!," The Soviet Artificial Earth Satellite, 1957, p. 35.

SARYMSAKOV, T.A.
BUGAYEV, V.A.; DZHORDZHIO, V.A.; KOZIK, Ye.M.; PETROSYANTS, M.A.; PSHENICH-
NYY, A.Ye.; ROMANOV, N.N.; CHERNYSHEVA, O.N.; SARYMSAKOV, T.A.,
akademik, red.; GOR'KOVY, P.I., red.izd-va; GOR'KOVAYA, Z.P.,
tekhn.red.

[Synoptic processes of Central Asia] Sinopticheskie protsessy
Srednei Azii. Tashkent, Izd-vo Akad. nauk Uzbekskoi SSR, 1957.
477 p. (MIRA 11:7)

1. Akademiya nauk UzSSR (for Sarymsakov)
(Soviet Central Asia--Climate)

SARYMSAKOV, T.A.

3-11-5/17

AUTHOR: Sarymsakov, T.A., Professor, Rector of the Central Asian State University imeni V.I. Lenin

TITLE: Where no Vuz Ever Existed (Tam, gde ne bylo ni odnogo vuza)

PERIODICAL: Vestnik Vysshey Shkoly, # 11, 1957, pp 28 --33 (USSR)

ABSTRACT: The article describes the development of culture and education in one of the most backward parts of the USSR - in Central Asia. Already in 1920 the Turkestan State University was founded which during the following years expanded considerably, and on the basis of which various institutes were organized, such as the Central-Asian Polytechnic Institute of Cotton-Irrigation (Sredneaziatskiy khlopkogo-irrigatsionnyy polytekhnicheskii institut), the Central-Asian Institute of Geological Research (Sredneaziatskiy geologo-razvedochnyy institut), and pedagogical institutes in various towns of Uzbekistan. In 1938, the Uzbek State University was founded at Samarkand. The post-war Five-Year Plan was concentrated on the development of the national economy and higher education. Highly qualified specialists were needed for the cotton industry, cattle-breeding, silk production and vegetable cultivating in Uzbekistan. They were trained at the Tashkent and Samarkand agricultural institutes. Seven faculties of the Tashkent Institute of Agriculture

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Where no Vuz ever Existed

3-11-5/17

played an important part in the development of the Republic's agriculture. Since 1930, when the Institute was founded, it has released 4,607 specialists. The Institute comprises 26 chairs with 208 professors. One of the most important centers of research is the Central Asian University in Uzbekistan. There are 40 professors-doctors, 210 dotsents and candidates of sciences, more than 200 lecturers and assistants. It has a large number of laboratories, studies, a library, etc. The Samarkand University, an important center of higher education in Central Asia, comprises 5 faculties; physics-mathematics, geology-geography, biology and soil study, linguistics and history. The Central-Asian Polytechnic Institute (Sredne-asiatskiy politekhnicheskiy institut) is an important center for training engineers. It was founded in 1931 and its development is connected with the rise of Uzbekistan industry and agriculture. The Institute of Irrigation and Mechanization of Agriculture consists of 4 faculties: hydromelioration, mechanization of agriculture, soil cultivation and a section for training by correspondence courses. The Tashkent Pedagogical Institute imeni Nizami (Tashkentskiy pedagogicheskiy

Card 2/3

Where no Vuz ever Existed

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institut imeni Nizami), founded in 1935, has graduated about 4,000 specialists. There are two medical vuzes in Uzbekistan, the Tashkent and the Samarkand medical institutes and recently the third medical institut was opened at Andizhan.

Uzbekistan higher educational institutions educated outstanding scientists, such as: Professor-Doctor U.A. Arifov, (physicist), Kh.U. Usmanov (chemist), A.T. Tulganov (biologist), Kh.M. Abdullayev (geologist), A.A. Askarov (physician), M.S. Sultanova and S.Kh. Siradzhinov (mathematicians), A.M. Aminov (economist), I.M. Muminov (philosopher); Kh.S. Suleymanov (jurist), T.Z. Zakhidov (zoologist). On the whole there are at present 31 vuzes and 71,000 students in the Uzbek SSR; 16 higher educational institutions are situated at Tashkent. A network of pedagogical vuzes was established at Samarkand, Andizhan, Bukhara, Fergana, Urgench, Termez, Nukus. Among five Samarkand vuzes, the Institute of Agriculture and the Institute of Commerce are the most important.

ASSOCIATION: Sredneaziatskiy gosudarstvennyy universitet imeni V.I. Lenina
(Central Asian State University imeni V.I. Lenin)

AVAILABLE: Library of Congress

Card 3/3

3-24/1957/10/11
SARYMSAKOV, T.A.; LINNIK, Yu.V.

~~SECRET~~
Nikolai Pavlovich Romanov; on the occasion of his 50th birthday.
Usp.mat.nauk 12 no.3:251-253 My-Je '57. (MIRA 10:10)
(Romanov, Nikolai Pavlovich, 1907-)

SARYMSAKOV, T. A

"On Some New Results on Markov Chains."

Paper submitted at International Congress Mathematicians, Edinburgh, ~~21~~ 14 - 21
Aug 58.

AUTHOR: Sarymsakov, T.A., Member of the Academy of Sciences of the UzSSR SOV/20-120-3-6/67

TITLE: On Heterogeneous Markov Chains (O neodnorodnykh tsepyakh Markova)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 3, pp 465-467 (USSR)

ABSTRACT: Considering heterogeneous Markov chains which are regulated by sequences of transition probabilities $\{P_n(x, \theta)\}$, the $P_n(x, \theta)$ are subject to certain conditions. Dobrushin [Ref 3] and Dynkin [Ref 2] use . . . the condition

$$(3) \quad \sup |P(x, A) - P(y, A)| = | - \lambda_p$$

where λ_p is the ergodicity coefficient of P. The author modifies the definition of λ_p in some cases, where (1) is not satisfied, and he thereby asserts to obtain some generalizations of his former results [Ref 6]. The understanding of the paper is rendered very difficult by the use of an own terminology defined in Central Asiatic publications

Card 1/2

On Heterogeneous Markov Chains

SOV/20-120-3-6/67

by the author.

There are 6 Soviet references.

ASSOCIATION: Sredneaziatkiy gosudarstvennyy universitet imeni V.I.Lenina
(Central Asia State University imeni V.I.Lenin)

SUBMITTED: January 21, 1958

1. Mathematics--Theory 2. Perturbation theory

Card 2/2

16(1)

AUTHOR:

Sarymsakov, T.A., Member of the AS Uz SSR SOV/166-59-1-8/11

TITLE:

On the Question of the Existence and Uniqueness of the Solution of a Class of Linear Operator Equations (K voprosu sushchestvovaniya i yedinstvennosti resheniy odnogo klassa lineynykh operatornykh uravneniy)

PERIODICAL:

Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1959, Nr 1, pp 69-74 (USSR)

ABSTRACT:

Let E be a complete topological space and let A be a linear operator mapping E into itself.

Theorem: Let the following conditions be satisfied: 1) there exists a bounded, closed, partially ordered set $Q \subset E$ so that $AQ \subseteq Q$; 2) to all $x, y \in Q$ there exists an integer $m = m(x, y)$, a λ ($0 < \lambda < 1$) and $z, u, v \in Q$ (where z simultaneously precedes the elements $A^m x$ and $A^m y$) so that $A^m x - z = (1 - \lambda)u$ and $A^m y - z = (1 - \lambda)v$; 3) there exists a set $Q_0 \subset Q$ not containing the zero element θ of E so that $Ax \in Q_0$ and $f(x) = 1$ for $x \in Q_0$ (f is a continuous functional on Q_0). Then $Ax = x$ has a unique solution $x_0 \in Q_0$ ($x_0 \neq \theta$).

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On the Question of the Existence and Uniqueness
of the Solution of a Class of Linear Operator
Equations

SOV/166-59-1-8/11

A second theorem relates to the special case of a stochastic
operator A. The author mentions M.G.Kreyn and A.N.Kolmogorov.
There are 2 Soviet references.

ASSOCIATION: Institut matematiki i mekhaniki AN Uz SSR (Institute of
Mathematics and Mechanics AS Uz SSR)

SUBMITTED: June 16, 1958

Card 2/2

SARYMSAKOV, T.A., akademik; ANTONOVSKIY, M.Ya.; DEKTYAREV, I.M.

Generalized metric spaces. Dokl.AN Uz.SSR no.5:3-7 '59.
(MIRA 12:8)

1. AN UzSSR (for Sarymsakov).
(Spaces, Generalized)

SARYMSAKOV, T.A., akademik

Arbitrary assignment of boundary conditions in making a hydro-
thermodynamic forecast of the weather. Dokl. AN Uz.SSR no. 8:
3-6 '59. (MIRA 12:11)

1. AN UzSSR.

(Weather forecasting)

ANTONOVSKIY, M.Ya.; BOLTYANSKIY, V.G.; SARYMSAKOV, T.A.;
SIRAZHDINOV, S.Kh., prof., otv. red.

[Topological semifields] Topologicheskie polupolia. Tash-
kent, Izd-vo SamGU. 1960. 48 p. (MIRA 16:4)
(Topology)

ANTONOVSKIY, M.Ye.; BOLTYANSKIY, V.G.; SARYMSAKOV, T.A.; SIRAZHDINOV, S.Kh. prof.
otv.red.

[Metric spaces above half-fields] Metricheskie prostranstva nad
polupoliami. Tashkent, 1961. 70 p. (Tashkent. Universitet.
Trudy, no.191). (MIRA 15:5)

(Topology)

ROMANOVSKIY, V.I.; SARYMSAKOV, T.A., akademik, otv. red.; ABUTALIPOV, Ch.A., red.; GOR'KOVAYA, Z.P., tekhn. red.

[Mathematical statistics] Matematicheskaya statistika. Tashkent, Izd-vo Akad.nauk Uzbekskoi SSR. Book 1. [Fundamentals of probability theory and mathematical statistics] Osnovy teorii veroiatnostei i matematicheskoi statistiki. 1961. 436 p.
(MIRA 14:12)

1. Akademiya nauk Uzbekskoy SSR (for Sarymsakov).
(Mathematical statistics) (Probabilities)

16.6100

25017

S/052/61/006/002/004/006
C111/C222

AUTHOR: Sarymsakov, T.A.

TITLE: Inhomogeneous Markov chains

PERIODICAL: Teoriya veroyatnostey i yeye primeneniye, v.6, no.2, 1961,
194 - 201

TEXT: The stochastic matrix P belongs to the class K if for its elements it holds

$$\sup_{i,j,A \in \mathcal{A}} \left| \sum_{k \in A} p_{ik} - \sum_{k \in A} p_{jk} \right| = 1 - \lambda_p (\lambda_p > 0) \quad (1)$$

The notations of this paper are the same as in (Ref. 15 : T.A. Sarymsakov, O neodnorodnykh tsepyakh Markova [On inhomogeneous Markov chains] DAN SSSR, CXK, 3, 1958, 465-468). The number λ_p is the coefficient of ergodicity of the matrix P . The order of P is denoted by (m,n) . Let a matrix P of the order (m,n) of the class K belong to the class $K^{(s)}$ if $\max(m,n) \leq s$ (≥ 2). It holds $K^{(s)} \subset \mathcal{K}^{(s)}$ (cf. (Ref. 15)).

Completing the lemmas 1 - 3 of (Ref. 15) at first the author proves the Card 1/8

Inhomogeneous Markov chains ²⁵⁰¹⁷

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following two lemmas :

Lemma 1 : Given $s - 1$ stochastic matrices

$$P_1, P_2, \dots, P_{s-1}$$

(2)

belonging to $\mathcal{K}^{(s)}$, where the number of the columns of P_i equals the number of rows of P_{i+1} ($i = 1, 2, \dots, s-2$). Let a and b be an arbitrary pair of non-intersecting (cf. (Ref. 15)) rows of the matrix P_1 . Then in the matrix $P = P_1 * P_2 * \dots * P_{s-1}$ the rows a and b intersect on a set of a positive measure of probability. In general the number $s-1$ cannot be diminished.

Lemma 2 : Let the stochastic matrices $P_1, P_2, \dots, P_h$ belong to $\mathcal{K}^{(s)}$ but not to $\mathcal{K}^{(s)}$; let $\lambda_1, \lambda_2, \dots, \lambda_h$ be their weak coefficients of ergodicity (cf. (Ref. 13; T.A. Sarymsakov, Ob ergodicheskom printsipe dlya neodnorodnykh tsepey Markova [On the ergodic principle for inhomogeneous Markov chains] DAN SSSR, XC, 1(1953), 25-28)). Then the weak

Card 2/8

Inhomogeneous Markov chains ²⁵⁰¹⁷

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coefficient of ergodicity of the matrix $P = P_1 * P_2 * \dots * P_h$ is not smaller than $\lambda = \lambda_1 \cdot \lambda_2 \cdot \dots \cdot \lambda_h$.

Let the sequence of random terms

$$x_1, x_2, \dots, x_n, \dots, \quad (11)$$

form a simple Markov chain and let it be controlled by the stochastic matrices

$$P_1, P_2, \dots, P_n, \dots \quad (12)$$

let the mathematical expectations of the x_i be equal to zero. The author uses the notations of (Ref. 3 : S.N. Bernshteyn, Determination d'une limite inférieure de la dispersion des sommes de grandeurs liées en chaîne singulière, Matem. sb. 1 (43) (1936), 29-38)

$$s_n = \sum_{h=1}^n x_h, \quad B_n = D s_n$$

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$$\alpha_h(a_i^{(h-1)}, a_1^{(h+1)}), b_h(a_i^{(h-1)}, a_1^{(h+1)}), \bar{b}_h(a_i^{(h-1)}) \text{ and } \bar{b}_h.$$

Let the transition probabilities $p_{ij}^{[h]}$ beside of h depend still on n .
In (Ref. 3) it was stated

$$B_n \geq \frac{1}{2} (\bar{b}_1 + \bar{b}_2 + \dots + \bar{b}_n) \quad (13)$$

Let $i = i_0$ be that index for which $\bar{b}_h(a_{i_0}^{(h-1)})$ reaches a minimum. Then
(Ref. 3) it holds :

$$\bar{b}_h \geq \sum_{j,1} p_{i_0 j}^{[h]} p_{j1}^{[h+1]} [a_j^{(h)} - \alpha_h(1)]^2 \quad (14)$$

where $\alpha_h(1) = \alpha_h(a_{i_0}^{(h-1)}, a_1^{(h+1)})$.

It is assumed :

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Inhomogeneous Markov chains

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(A) The matrix $P_h \in K^{(s)}$, $h = 1, 2, \dots$, has a coefficient of ergodicity being not smaller than λ_n , and to every row with a number $i \leq s$ there exist columns with numbers j_1 and $j_2 \neq j_1$ depending on i so that

$$p_{ij_1}^{[h]} \geq \lambda_n \quad \text{and} \quad p_{ij_2}^{[h]} \geq \lambda_n. \quad (15)$$

(B) Independent of the already known values of certain magnitudes x_k , such numbers L_q can be given that for $h > k$ the mathematical expectation

of $|x_h^q|$, where q is an arbitrary integer, remains smaller than L_q .

Equivalent definition of the coefficient of ergodicity: The number $\lambda > 0$ is called the coefficient of ergodicity of the matrix $P = \|p_{ij}\|$

if for an arbitrary pair of rows with the numbers i and j there exists a column with the number k so that $p_{ik} \geq \lambda$ and $p_{jk} \geq \lambda$.

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Theorem 1 : If (A), (B), $\lambda_n \geq n^{-\alpha}$ are satisfied, and if besides

$$(a) \quad |a_{j_1}^{(h)} - a_{j_2}^{(h)}| \geq d > 0 \quad (j_1 = j_1(i_0), j_2 = j_2(i_0)),$$

where d is a constant then the central limit theorem for $\alpha < \frac{1}{7}$ can be applied to the sum s_n .

Theorem 2 : If (A), (B), $\lambda_n \geq n^{-\alpha}$ are satisfied, and if besides it holds

(b) for arbitrary i and h it holds

$$\max(p_{i,j_1}^{[h]}, p_{j_1,i_0}^{[h+1]}) \geq c > 0$$

$$|a_{j_1}^{(h)} - \alpha_h(a_1^{(h-1)}, a_1^{(h+1)})| \geq d > 0$$

or

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Inhomogeneous Markov chains ²⁵⁰¹⁷

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$$\max(p_{ij_2}^{(h)}, p_{j_2 l_0}^{(h+1)}) \geq c > 0,$$

$$|a_{j_2}^{(h)} - \alpha_h(a_i^{(h-1)}, a_{l_0}^{(h+1)})| \geq d > 0$$

where c and d are constants, l_0 is the number of the column on which the rows with the numbers j_1 and j_2 intersect in P_{h+1} then the central limit theorem for $\alpha < \frac{1}{5}$ is applicable to the sum s_n .

Theorem 3 : If in theorem 2 all other assumptions are maintained and the assumption (b) is replaced by (c) for arbitrary i and h it holds

$$\begin{cases} \min(p_{ij_i}^{(h)}, p_{j_i l_0}^{(h+1)}) \geq c > 0, \\ |a_{j_i}^{(h)} - \alpha_h(a_i^{(h-1)}, a_{l_0}^{(h+1)})| \geq d > 0, \end{cases}$$

or

$$\begin{cases} \min(p_{ij_i}^{(h)}, p_{j_i l_0}^{(h+1)}) \geq c > 0, \\ |a_{j_i}^{(h)} - \alpha_h(a_i^{(h-1)}, a_{l_0}^{(h+1)})| \geq d > 0, \end{cases}$$

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Inhomogeneous Markov chains ²⁵⁰¹⁷

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C111/C222

then the central limit theorem for $\sim \leq \frac{1}{3}$ can be applied to s_n .

Theorem 4 : Let be satisfied :

(A) , $\lambda_n \geq \mu > 0$, $|a_{j_1}^{(h)} - a_{j_2}^{(h)}| \geq d > 0$ and $|x_h| \leq L$ ($h=1,2,\dots$) ,

where μ , d , L are constants not depending on n . Then the law of the repeated logarithm is applicable to the sums s_n formed with the magnitudes (11).

It is pointed out that in the theorems 1 - 4 the condition (A) can be replaced by a somewhat more general condition, whereby one obtains partially somewhat more general assertions analogous to the theorems 4-4.

The author mentions S.N. Bernshteyn and N.A. Sapogov.
There are 16 Soviet-bloc references.

SUBMITTED: February 3, 1959

Card 8/8

SARYMSAKOV, T. A.		SOV/6371
Transactions of the Sixth Conference (Cont.)		
26.	Sarmanov, O. V., and V. K. Zakharov. Change of the Spectrum of a Stochastic Matrix Upon Enlargement	153
27.	Sarymsakov, T. A. On One General Theorem Regarding Fixed Points, and Its Connections With Ergodic Theorems	155
28.	Sevast'yanov, B. A. Limit Theorems for Branching Processes With Diffusion	157
29.	Skorokhod, A. V. On Stochastic Differential Equations	159
30.	Stratonovich, R. L. On the Infinitesimal Operator of a Markov Process (Published after Ye. B. Dynkin's Report "Survey of Some Trends in the Theory of Markov Processes")	169
31.	Freydlin, M. I. Application of K. Ito's Stochastic Equations to the Investigation of the Second Boundary-Value Problem	173

Transactions of the 6th Conf. on Probability Theory and Mathematical Statistics and of the Symposium on Distributions in Infinite-Dimensional Spaces held in Vil'nyus, 5-10 Sep '60. Vil'nyus OGospolitizdat Lit SSR, 1962. 493 p. 2500 copies printed

SARYMSAKOV, T. A.

"Topological semi-fields and some of their applications"

report submitted at the Intl Conf of Mathematics, Stockholm, Sweden,
15-22 Aug 62

ROMANOVSKIY, V.I., akademik; SARYMSAKOV, T.A., akademik, otv. red.;
DIVEYEV, R.Kh., red.; NAGAYEV, S.V., red.; MALEVICH, T.L.,
red.; RONZHIN, V.I., red.; EYDEL'NANT, M.I., red.;
KISELEVA, V.N., red.; GOR'KOVAYA, Z.P., tekhn. red.

[Mathematical statistics] Matematicheskaya statistika.
Tashkent, Izd-vo Akad. nauk UzSSR, Book 2. [Operational
methods of mathematical statistics] Operativnye metody ma-
tematicheskoi statistiki. 1963. 794 p. (MIRA 16:5)

1. Akademiya nauk Uzbekskoy SSR (for Romanovskiy, Sarymsakov).
2. Otdel teorii veroyatnostey i matematicheskoy statistiki
Instituta matematiki im. V.I. Romanovskogo Akademii nauk Uzbek-
skoy SSR (for Diveyev, Nagayev, Malevich).
(Mathematical statistics)

SARYMSAKOV, I.A., akademik

General ergodic theory. Dokl. AN SSSR 159 no.1:25-27 N '64.
(MIRA 17:12)

1. Tashkentskiy gosudarstvennyy universitet im. V.I. Lenina 1
AN UzSSR.

SARYMSAKOV, T.A.

Simplified proof of A.N.Tikhonov's theorem. Usp. mat. nauk 20
no.4:172-173 J1-Ag '65. (MIRA 18:8)

L 29125-66 EWT(d) IJP(c)

ACC NR: AP6019387

SOURCE CODE: UR/0042/65/020/004/0172/0173

AUTHOR: Sarymsakov, T. A.

ORG: none

TITLE: Simplified proof of a theorem of A. N. Tikhonov

SOURCE: Uspekhi matematicheskikh nauk, v. 20, no. 4, 1965, 172-173

TOPIC TAGS: topology, real function

ABSTRACT: The space of all real-valued functions on set Δ with TIKHONOV topology and natural order and operations of addition and multiplication is designated as R_{Δ} and is said to be a topological half-field. It was shown in an earlier article by M. Ya. ANTONOVSKIY, V. G. BOLTYANSKIY, and the author that every locally convex space X is normalizable over a certain R_{Δ} . The purpose of the present article is to show that A. N. TIKHONOV's fixed-point theorem can be proved elementarily with the aid of an introduced norm. TIKHONOV's theorem is stated as follows: Let $A \subset X$ be a convex biocompact set and $f: A \rightarrow A$ a continuous mapping; then there exists at least one point $a \in A$ such that $f(a) = a$. Orig. art. has:

10 formulas. /JPRS/

SUB CODE: 12 / SUEM DATE: 05Jun64 / ORIG REF: 001 / OTH REF: 001

Card 1/1 C.C.

UDC: 517.5

ACC NR: AP7005424

SOURCE CODE: UR/0042/66/021/004/0185/0218

ANTONOVSKIY, M. Ya.; BOLTYANSKIY, V. G.; SARYMSAKOV, T. A.

"Outline of the Theory of Topological Semi-Fields"

Moscow, Uspekhi Matematicheskikh Nauk, No. 4, Vol. 21, 1966, pp 185-218

Abstract: A topological semi-field is a semi-ordered topological ring with a partially feasible operation of extracting the inverse element. The axioms of the topological semi-field are so selected that its properties are similar to a field of real numbers. Thus, metric spaces over semi-fields can be used to strengthen a number of analysis theorems, such as the theorems of Kakutani (existence of an invariant metric on a group), the Banach theorem (open mappings), etc. Semi-fields themselves are convenient devices in dealing with problems in the theory of probability and ergodic theory. If a topological Boolean algebra is the set of all idempotents of an arbitrary semi-field, it is easy to determine the probability measure as the mapping of the algebra in a cone of positive elements of a semi-field. With this approach certain unsolved problems in ergodic theory have a real, generalized solution.

The authors consider only the topological applications of the theory of semi-fields; normed spaces over semi-fields and applications to the theory of probability and ergodic theory are not discussed. The authors review the

Card 1/2

UDC: 513.83

0926 2291

ACC NR: AP7005424

Tikhonov-type semi-field, metric spaces over a set of real functions, metrization of uniform structures, regular metrics and metrization of proximity space, convergence in metric space, completeness, hypercompleteness, the theorem of a closed graph, general definitions of a topological semi-field, Boolean topological algebras, universal semi-fields, and the theorem of classification.

Orig. art. has: 13 formulas. [JPRS: 38,695]

ORG: none

TOPIC TAGS: real function, Boolean algebra, topology

SUB CODE: 12 / SUBM DATE: 16Mar66 / ORIG REF: 020 / OTH REF: 010

Card 2/2

SARYNINA, R. N. and SEDYKH, K. A.

"Hydrological Conditions in the Barents Sea in 1956."

paper presented at the Meeting of the International Council for Exploration of the Sea, Annual Meeting, Bergen, Norway, 30 Sep - 8 Oct 57. Presented to Hydrographical Committee.

SARYNOV, E.A.; KEREYEV, N.I.

Principal means for lowering and eradicating infectious
diseases in Kazakhstan. Zdrav. Kazakh. 21 no.11:8-12 '61.

(MIRA 15:7)

(KAZAKHSTAN—COMMUNICABLE DISEASES—PREVENTION)

SARYYEV, A.M.

Clinical characteristics of trachoma according to materials from
ophthalmological institutions in Turkmenistan. Trudy Turk.nauch.-
issl.trakh.inst. 6:3-8 '60. (MIRA 15:11)
(CONJUNCTIVITIS, GRANULAR)

SARYYEV, D.

Channeling processes in the Kara Kum Cana'. Izv. AN Turk. SSR. Ser.
fiz.-tekhn., khim. i geol.nauk no.6:112-114 '83.

(MIRA 18:1)

1. Institut vodnykh problem i gidrotekhniki AN Turkmensoy SSR.

SARYYEV, G.A., aspirant

Bactericidal and bacteriostatic properties of naphthalan (refined) in relation to Pasteurella. Azerb. med. zhurn. 40 no.10: 54-57 1963 (MIRA 17#7)

1. Iz Azerbaydzhanskogo nauchno-issledovatel'skogo veterinarnogo instituta (dir. - deystvitel'nyy chlen AN AzerbSSR akademik M.K. Ganiyev).

PRZELECKA, A.; DOMINAS, H.; SARZALA, M.G.

Indigogenic method of histochemical localization of alkaline phosphatase. *Acta morphol* 21 no.3:371-376 '62.

1. Zaklad Biochemii, Instytut Biologii Doswiadczalnej im. M. Nenckiego Warszawa. Kierownik: prof. dr W. Niemierko.

SARZHEVSKAYA, L.A.

Effect of salivary gland function on the teeth. Stomatologiya
no.1:28-30 Ja-F '55. (MLRA 8:5)

1. Iz kafedry normal'noy fiziologii Kiyevskogo meditsinskogo stomatologicheskogo instituta.

(SALIVARY GLANDS, physiology,

eff. of excretion on teeth in animals)

(TEETH, physiology,

eff. of salivary glands excretion in animals)

SARZHEVSKAYA, L.A., kandidat meditsinskikh nauk (Kiyev)

Salivation in people with perfect teeth and acute and chronic
caries. Probl. stom. 3:33-35 '56 (MLBA 10:5)
(TEETH--DISEASES) (SALIVARY GLANDS)

KODOLA, N.A., kand.med.nauk (Kiyev); SARshevskaya, L.A., kand.med.nauk
(Kiyev)

Influence of weakened cerebral cortex function on the condition
of the periodontium. Report No.1. Probl.stom. 4:47-50 '58.
(MIRA 13:6)

(CEREBRAL CORTEX) (GUMS)

SARZHEVSKAYA, L.A., kand.med.nauk (Kiyev)

Influence of the ligation of the salivary gland ducts on the
condition of the periodontium in white rats. Probl.stom. 4:
111-114 '58. (MIRA 13:6)
(SALIVARY GLANDS) (GUMS)

SARZHEVSKAYA, L.A. (Kiyev); FLIS, Z.A. (Kiyev)

Functional characteristics of salivary gland activity in
paradentosis. Probl.stom. 6:61-65 '62. (MIRA 16:3)
(GUMS—DISEASES) (SALIVARY GLANDS)

SEVCHENKO, A.N.; akademik; SOLOV'YEV, K.N.; SHKIRMAN, S.F.;
SARZHEVSKAYA, M.V.

Quasi-line electron vibration spectra of porphine and
dihydroporphine. Dokl. AN SSSR 153 no.6:1391-1394 D '63.
(MIRA 17:1)

1. Institut fiziki AN BSSR. 2. AN BSSR (for Sevchenko).

L 49773-65

UR/0058/65/000/003/0028/0028

ACCESSION NR: AR5012244

SOURCE: Ref. zh Fizika, Abs. 3D196

AUTHORS: Solov'yev, K. N.; Shkirman, S. F.; Sarzhevskaya, M. V.

TITLE: Quasilinear electronic spectra of porphin and its derivatives

CITED SOURCE: Tr. Komiss. po spektroskopii. AN SSSR, vyp. 1, 1964, 64-64

TOPIC TAGS: absorption spectrum, luminescence spectrum, porphin, dihydroporphin, electronic spectrum, line spectrum

ABSTRACT: The quasilinear spectra of absorption and luminescence of porphin and dihydroporphin are investigated in the visible and near-infrared regions.

SUB CODE: 83 OF, 00
Card 1/1

ENCL: 00

2884-03 EPR/EWP(j)/EPF(c)/EWT(m)/BDS/RS(s)-2 AFFTC/ASD/SSD
PS-4/PC-4/PR-4/PT-4 RM/WW/JW/MAY
ACCESSION NR: AP3001451 S/0073/63/029/005/0523/0526 81AUTHOR: Sarzhevskaya, V. P.; Kornev, K. A.; Smirnova-Zamkova, S. E. 80

TITLE: Polyamides having aromatic and heterocyclic groups in the chain. 3. Polyamides based on hexamethylene diamine, n-xylylenediamine and pyridine-2,5-dicarboxylic acid

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 29, no. 5, 1963, 523-526

TOPIC TAGS: polyamides, aromatic groups, heterocyclic groups, hexamethylene diamine, n-xylylenediamine, copolymers, resins interphase condensation method

ABSTRACT: Polyhexamethylene isocinchomeronamide was synthesized from hexamethylene diamine and pyridine-2,5-dicarboxylic acid by the interphase-condensation method described by Smirnova-Zamkova and Kornev (Ukr. khim. Zh., 28, 1962). Poly-n-xylylene isocinchomeronamide was similarly prepared using n-xylylenediamine. Copolymers were synthesized using the dibasic acid and mixtures of the mentioned diamines: an increase of the n-xylylene-diamine raised the fusion temperature and decreased solubility of these thermally stable resins. The best yield and highest

L 12884-63

ACCESSION NR: AP3001451

mol/gm did not change the yield or viscosity of the polyamide solutions significantly. Orig. art. has: 3 tables, 1 figure.

ASSOCIATION: Institut khimii polimerov i monomerov, AN UkrSSR (Institute of Polymer and Monomer Chemistry, Academy of Sciences Ukrainian SSR)

SUBMITTED: 28Apr62

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: 00

NO REF SOV: 007

OTHER: 004

Card 2/2

SARZHEVSKAYA, V.P.; KORNEV, K.A.; SMIRNOVA-ZAMKOVA, S.Ye.

Polyamides with aromatic and heterocyclic links in the chain. Part 8: Polyamides based on some heterocyclic dicarboxylic acids and aliphatic diamines. Ukr. khim. zhur. 29 no.10:1076-1078 '63. (MIRA 17:1)

1. Institut khimii polimerov i monomerov AN UkrSSR.

ACCESSION NR: AP4021982

8/0073/64/030/002/0217/0219

AUTHOR: Sarzhevskaya, V. P.; Kornev, K. A.; Smirnova-Zamkova, S. Ye.

TITLE: Polyamides with aromatic and heterocyclic rings in the chain.
VIII. Polyamides based on certain aliphatic-aromatic diamines and pyridine dicarboxylic acid.

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 2, 1964, 217-219

TOPIC TAGS: polyamide, aromatic polyamide, heterocyclic polyamide, interphase polycondensation, melting point, pyridine dicarboxylic diamide, property, solubility, molecular symmetry

ABSTRACT: This is a continuation of a series of works on determining and explaining the properties of polyamides containing heterocyclic groups in the basic chain. Polyamides of pyridine-2,5- and pyridine-2,6-dicarboxylic acids were prepared by interphase polycondensation with 2,5-di (aminomethyl)-p-xylene (p-XY), 4,6-di (aminomethyl)-m-xylene (m-XY), 2,5-di (aminomethyl)-thiophene (TF), p-xylylene-diamine (p-XD), 4,4'-di (aminomethyl)-diphenylether (DFE), 4,4'-di (aminomethyl)-diphenylmethane (DFM), 4,4'-di (aminomethyl)-diphenyl (DIF). The more densely

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ACCESSION NR: AP4021982

packed symmetrical pyridine-2,5-diamides are higher melting and less soluble. The temperature increase within the series depends on the structure of the diamine component. For the pyridine-2,5- derivatives the temperature increases in the series: p-XY, m-XY, TF, DFM, DFE, DIF (highest melting). This relationship does not hold true for the pyridine-2,6-diamides. Orig. art. has: 2 tables and 1 figure.

ASSOCIATION: Institut khimii polimerov i monomerov AN UkrSSR (Institute of Polymer and Monomer Chemistry AN UkrSSR)

SUBMITTED: 06Apr64

DATE ACQ: 09Apr64

ENCL: 00

SUB CODE: CH

NO. REF SOV: 005

OTHER: 000

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